What is claimed is

1. A process for the production of polyolefin hollow articles, which comprises

charging the polyolefin with a stabilizer combination, comprising

(a) at least one compound from the group of the organic phosphites and phosphonites,

(b) one or more compounds selected from the group consisting of

i.) hydroxylamine derivatives and

ii.) amine oxide derivatives and

(c) at least one compound from the group of the hindered amine stabilizers,

filling this mixture into a mold, heating this mold in an oven to above 280°C, such that the stabilized polyolefin fuses,

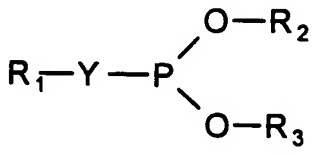
rotating the mold around at least 2 axes, the plastic material spreading to the walls,

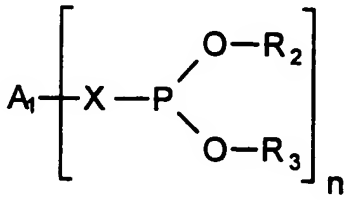
cooling the mold while still rotating,

opening it, and

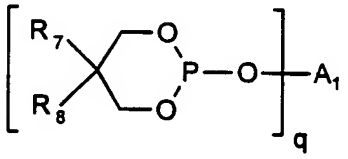
taking the resultant hollow article out.

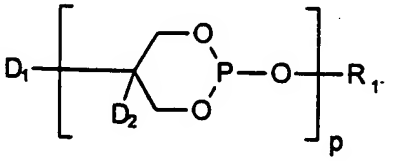
2. A process according to claim 1 wherein the organic phosphites and phosphonites of component (a) are selected from the group consisting of formulae (1), (2), (3), (4), (5), (6) and (7)

(1) 

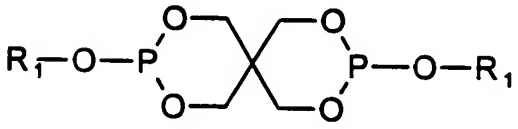


(2)

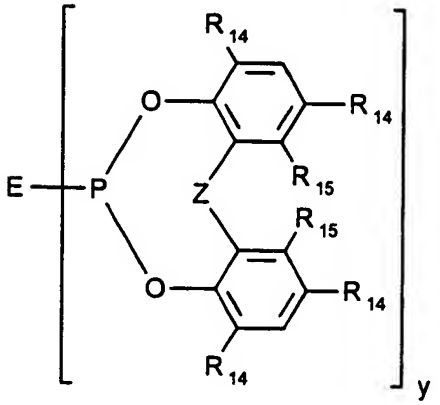
(3) 

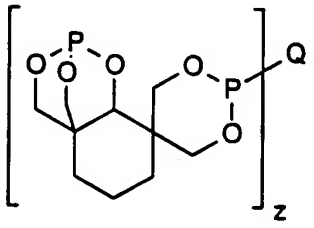


(4)



(5)

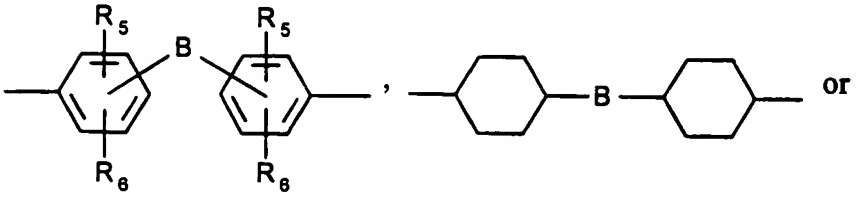
(6) 



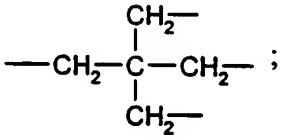
(7)

in which the indices are integral and

n is 2, 3 or 4; p is 1 or 2; q is 2 or 3; r is 4 to 12; y is 1, 2 or 3; and z is 1 to 6;

A_1, if n is 2, is C_2-C_{18} alkylene; C_2-C_{12} alkylene interrupted by oxygen, sulfur or -NR_4-; a radical of the formula  or phenylene;

A_1, if n is 3, is a radical of the formula -C_rH_{2r-1}-;

A_1, if n is 4, is  ;

A_2 is as defined for A_1 if n is 2;

B is a direct bond, -CH $_2$-, -CHR_4-, -CR_1R_4-, sulfur, C_5-C_7 cycloalkylidene, or cyclohexylidene which is substituted by from 1 to 4 C_1-C_4 alkyl radicals in position 3, 4 and/or 5;

D_1, if p is 1, is C_1-C_4 alkyl and, if p is 2, is -CH_2OCH_2-;

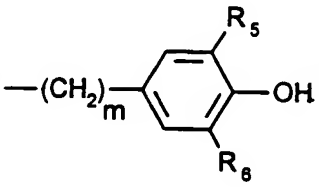
D_2, if p is 1, is C_1-C_4 alkyl;

E, if y is 1, is C_1-C_{18} alkyl, -OR_1 or halogen;

E, if y is 2, is -O-A_2-O-,

E, if y is 3, is a radical of the formula $R_4C(CH_2O-)_3$ or $N(CH_2CH_2O-)_3$;

Q is the radical of an at least z-valent alcohol or phenol, this radical being attached via the oxygen atom to the phosphorus atom;

R_1, R_2 and R_3 independently of one another are C_1-C_{18} alkyl which is unsubstituted or substituted by halogen, -$COOR_4$, -CN or –$CONR_4R_4$; C_2-C_{18} alkyl interrupted by oxygen, sulfur or -NR_4-; C_7-C_9 phenylalkyl; C_5-C_{12} cycloalkyl, phenyl or naphthyl; naphthyl or phenyl substituted by halogen, 1 to 3 alkyl radicals or alkoxy radicals having a total of 1 to 18 carbon atoms or by C_7-C_9 phenylalkyl; or a radical of the formula  in which m is an integer from the range 3 to 6;

R_4 is hydrogen, C_1-C_{18} alkyl, C_5-C_{12} cycloalkyl or C_7-C_9 phenylalkyl,

R_5 and R_6 independently of one another are hydrogen, C_1-C_8 alkyl or C_5-C_6 cycloalkyl,

R_7 and R_8, if q is 2, independently of one another are C_1-C_4 alkyl or together are a 2,3-dehydropentamethylene radical; and

R_7 and R_8, if q is 3, are methyl;

R_{14} is hydrogen, C_1-C_9 alkyl or cyclohexyl,

R_{15} is hydrogen or methyl and, if two or more radicals R_{14} and R_{15} are present, these radicals are identical or different,

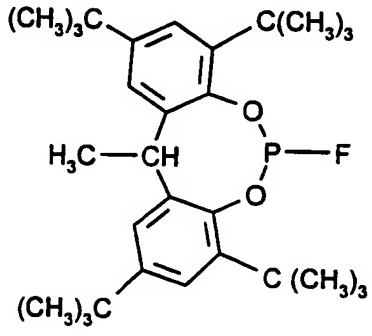
X and Y are each a direct bond or oxygen,

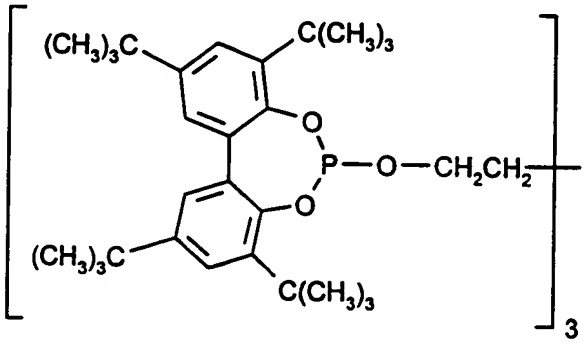
Z is a direct bond, methylene, $-C(R_{16})_2-$ or sulfur, and

R_{16} is C_1-C_8 alkyl.

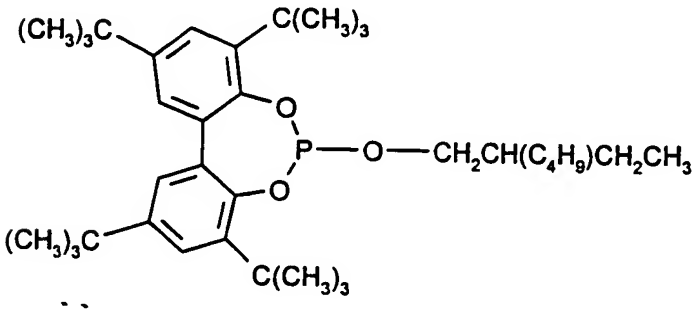
3. A process according to claim 1 wherein the organic phosphites and phosphonites of component (a) are selected from the group consisting of tris(2,4-di-tert-butylphenyl) phosphite, tris(nonylphenyl) phosphite and formulae (A), (B), (C), (D), (E), (F), (G), (H), (J), (K) and (L)

(A)

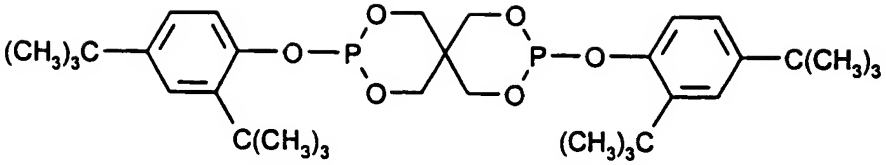




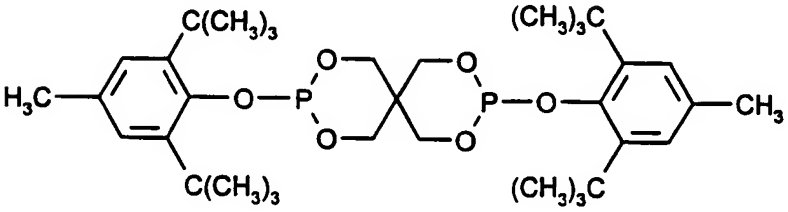
(B)



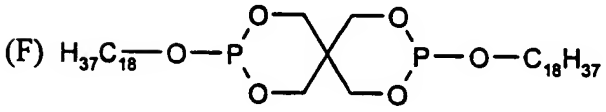
(C)

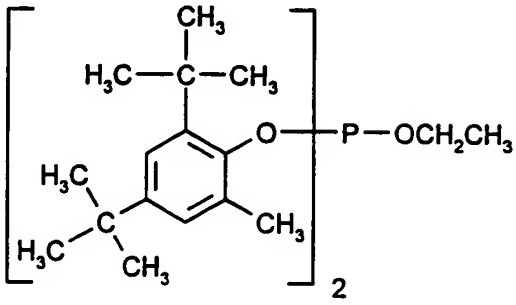


(D)

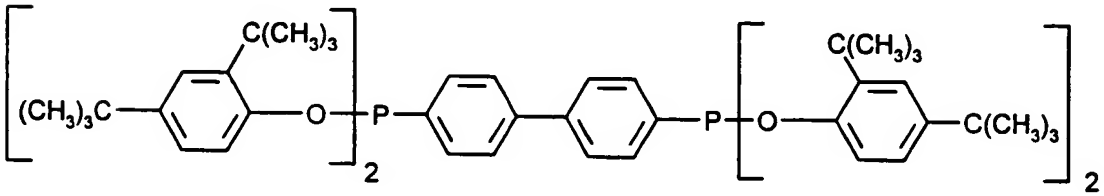


(E)

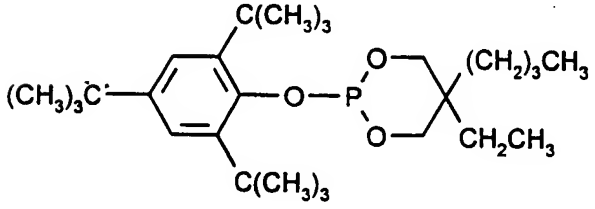
(F) 



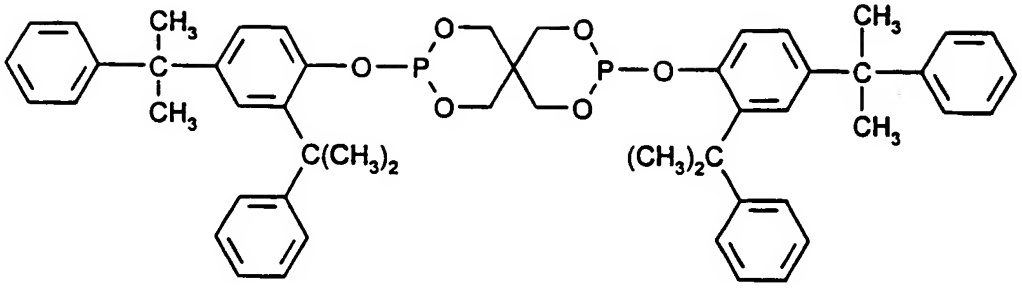
(G)



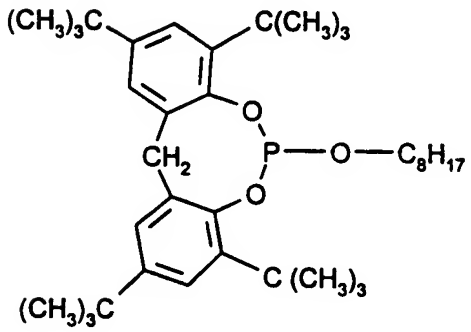
(H)



(J)

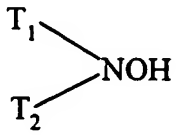


(K)



(L).

4. A process according to claim 1 wherein the hydroxylamine derivatives of component (i) are of the formula (II)



(II)

wherein

T_1 is straight or branched chain alkyl of 1 to 36 carbon atoms, cycloalkyl of 5 to 12 carbon atoms, aralkyl of 7 to 9 carbon atoms, or said aralkyl substituted by one or two alkyl of 1 to 12 carbon atoms or by one or two halogen atoms;

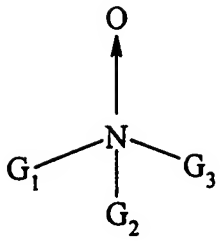
T_2 is hydrogen, or independently has the same meaning as T_1.

5. A process according to claim **4** wherein T_1 and T_2 are independently benzyl, ethyl, octyl, lauryl, dodecyl, tetradecyl, hexadecyl, heptadecyl or octadecyl.

6. A process according to claim **1** wherein the hydroxylamine derivatives of component (i) are selected from the group consisting of N,N-dibenzylhydroxylamine, N,N-diethylhydroxylamine, N,N-dioctylhydroxylamine, N,N-dilaurylhydroxylamine, N,N-didodecylhydroxylamine, N,N-ditetradecylhydroxylamine, N,N-dihexadecylhydroxylamine, N,N-dioctadecylhydroxylamine, N-hexadecyl-N-tetradecylhydroxylamine, N-hexadecyl-N-heptadecylhydroxylamine, N-hexadecyl-N-octadecylhydroxylamine, N-heptadecyl-N-octadecylhydroxylamine, and N,N-di(hydrogenated tallow)hydroxylamine.

7. A process according to claim **1** wherein component (i) is an N,N-di(alkyl)hydroxylamine produced by the direct oxidation of N,N-di(hydrogenated tallow)amine.

8. A process according to claim **1** wherein the amine oxide derivatives of component (ii) are of the formula (III)



(III)

wherein

G_1 and G_2 are independently a straight or branched chain alkyl of 6 to 36 carbon atoms, aryl of 6 to 12 carbon atoms, aralkyl of 7 to 36 carbon atoms, alkaryl of 7 to 36 carbon atoms, cycloalkyl of 5 to 36 carbon atoms, alkcycloalkyl of 6 to 36 carbon atoms or cycloalkylalkyl of 6 to 36 carbon atoms;

G_3 is a straight or branched chain alkyl of 1 to 36 carbon atoms, aryl of 6 to 12 carbon atoms, aralkyl of 7 to 36 carbon atoms, alkaryl of 7 to 36 carbon atoms, cycloalkyl of 5 to 36 carbon atoms, alkcycloalkyl of 6 to 36 carbon atoms or cycloalkylalkyl of 6 to 36 carbon atoms; with the proviso that at least one of G_1,G_2 and G_3 contains a β carbon-hydrogen bond; and

wherein said alkyl, aralkyl, alkaryl, cycloalkyl, alkcycloalkyl and cycloalkylalkyl groups may be interuppted by one to sixteen -O-, -S-, -SO-, $-SO_2-$, -COO-, -OCO-, -CO-, $-NG_4-$, $-CONG_4-$ and $-NG_4CO-$ groups, or wherein said alkyl, aralkyl, alkaryl, cycloalkyl, alkcycloalkyl and cycloalkylalkyl groups may be substituted by one to sixteen groups selected from $-OG_4$, $-SG_4$, $-COOG_4$, $-OCOG_4$, $-COG_4$, $-N(G_4)_2$, $-CON(G_4)_2$, $-NG_4COG_4$ and 5- and 6-membered rings containing the $-C(CH_3)(CH_2R_x)NL(CH_2R_x)(CH_3)C-$ group or wherein said alkyl, aralkyl, alkaryl, cycloalkyl, alkcycloalkyl and cycloalkylalkyl groups are both interuppted and substituted by the groups mentioned above; and

wherein

G_4 is independently hydrogen or alkyl of 1 to 8 carbon atoms;

R_x is hydrogen or methyl;

L is a C_{1-30} straight or branched chain alkyl moiety, a -C(O)R moiety wherein R is a C_{1-30} straight or branched chain alkyl group, or a -OR moiety wherein R is a C_{1-30} straight or branched chain alkyl group; and

wherein said aryl groups may be substituted by one to three halogen, alkyl of 1 to 8 carbon atoms, alkoxy of 1 to 8 carbon atoms or combinations thereof.

9. A process according to claim **8** wherein wherein G_1 and G_2 are indpendently straight or branched chain alkyl groups of 6 to 22 carbon atoms and G_3 is a straight or branched chain alkyl of 1 to 22 carbon atoms.

10. A process according to claim **8** in which G_3 is methyl.

11. A process according to claim **8** wherein G_1 and G_2 are each independently a straight or branched chain alkyl of 12 to 22 carbon atoms and wherein G_3 is methyl.

12. A process according to claim **8** wherein G_1, G_2 and G_3 are each independently a straight or branched chain alkyl of 12 to 22 carbon atoms.

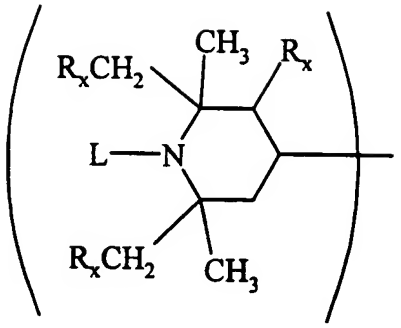
13. A process according to claim **8** wherein the amine oxide derivatives of component (ii) are selected from the group consisting of didecyl methyl amine oxide, tridecyl amine oxide, tridodecyl amine oxide and trihexadecyl amine oxide.

14. A process according to claim **8** wherein at least one of G_1, G_2 and G_3 comprises at least one moiety of the group consisting of -O-, -S-, -SO-, -COO-, -CO- and -$CONG_4$-.

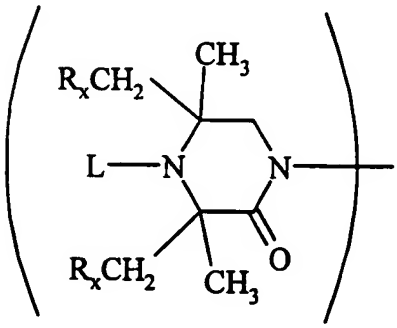
15. A process according to claim **1** wherein the amine oxide derivatives are poly(amine oxides).

16. A process according to claim **15** wherein the poly(amine oxides) comprise at least one moiety of the group consisting of -O-, -S-, -SO-, -COO-, -CO- and -$CONG_4$-.

17. A process according to claim **8** wherein one or more of G_1, G_2 and G_3 is substituted by one to sixteen groups of formulae (IV) and (V),

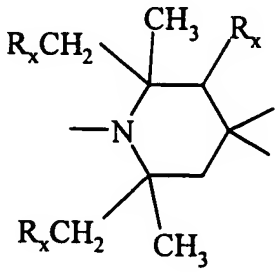


(IV)



(V)

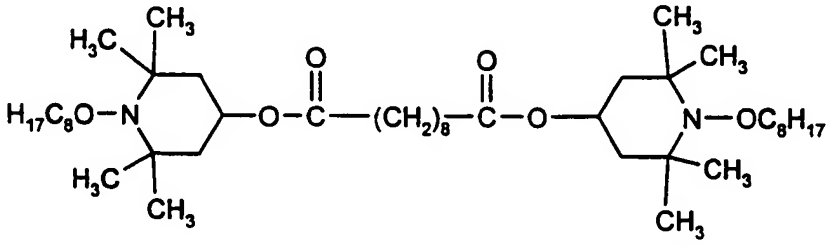
18. A process according to claim **1** wherein the hindered amine stabilizers of component (c) contain at least one group of the formula (VI)



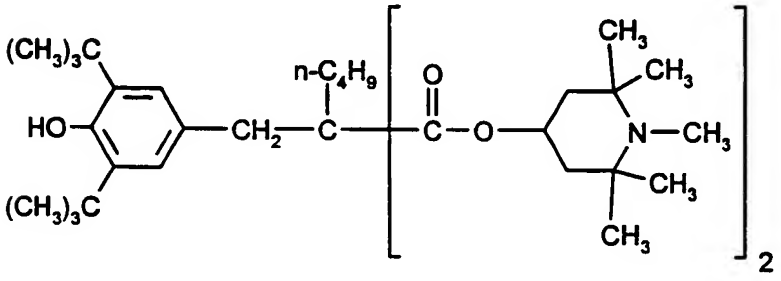
(VI)

in which R_x is hydrogen or methyl.

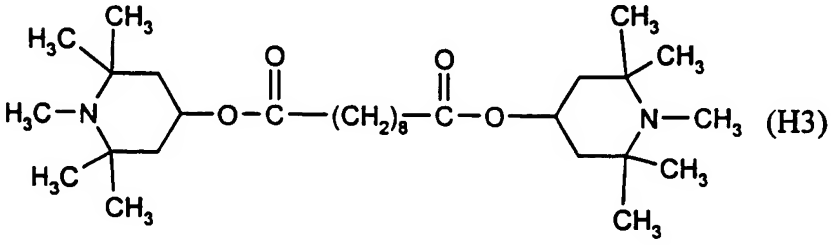
19. A process according to claim **18** wherein the hindered amine stabilizers are selected from the group consisting of formulae (H1), (H2), (H3), (H4), (H5), (H6), (H7), (H8), (H9), (H10), (H11), (H12), (H13), (H14), (H15), (H16) and (H17)



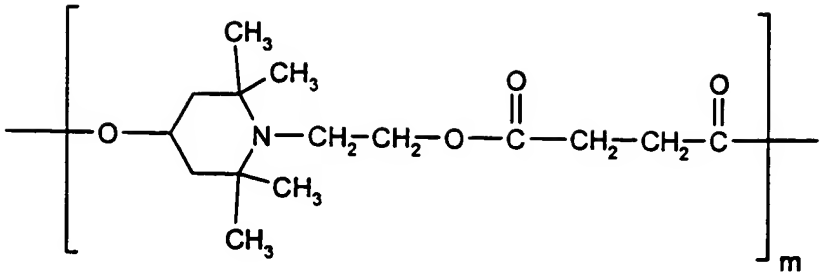
(H1)



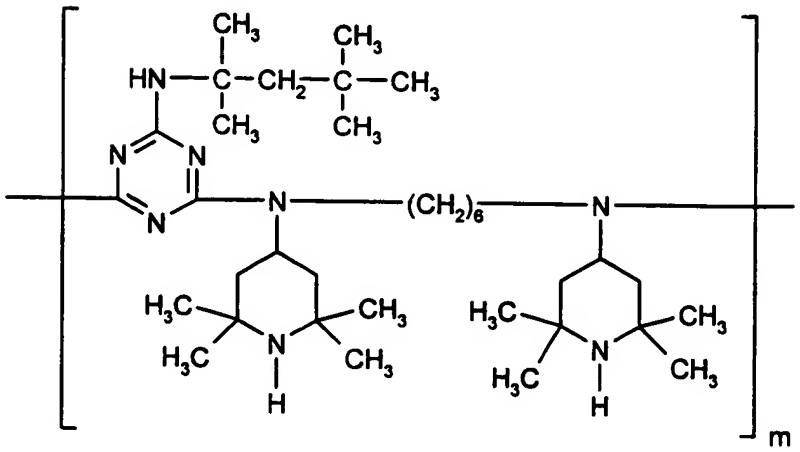
(H2)



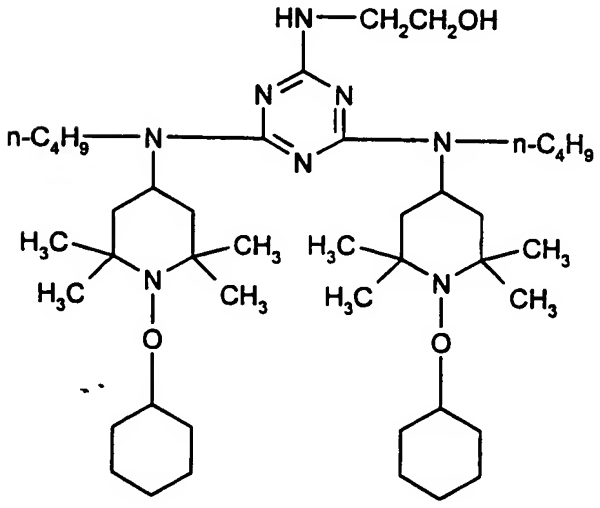
(H3)



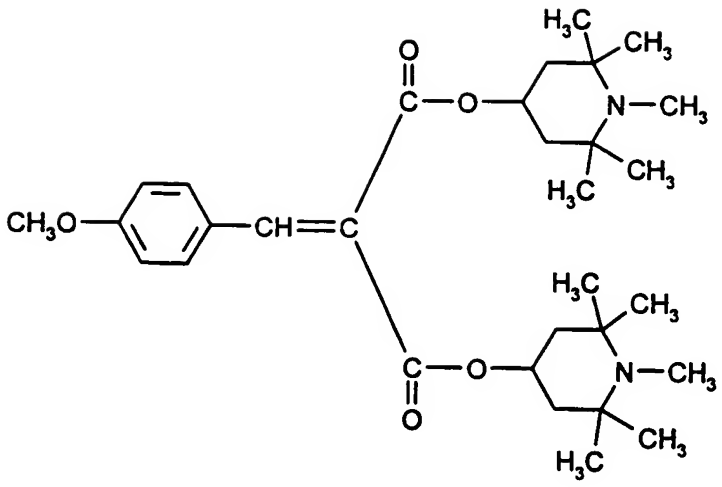
(H4)



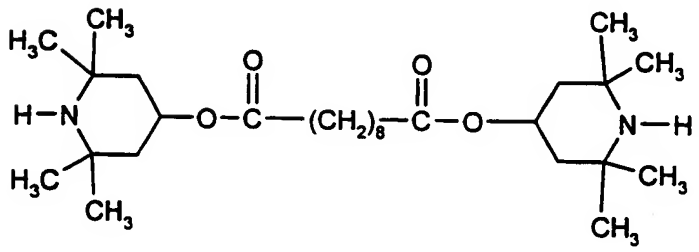
(H5)



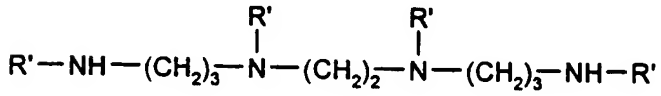
(H6)



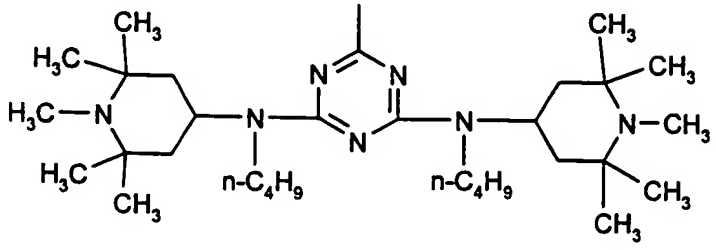
(H7)

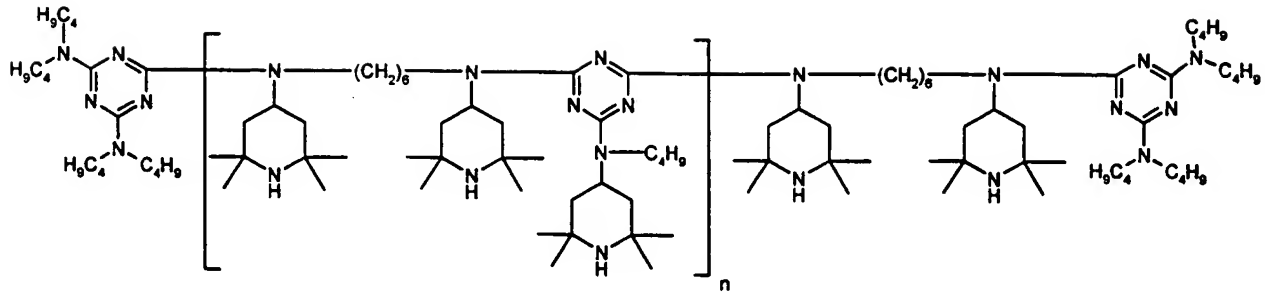


(H8)

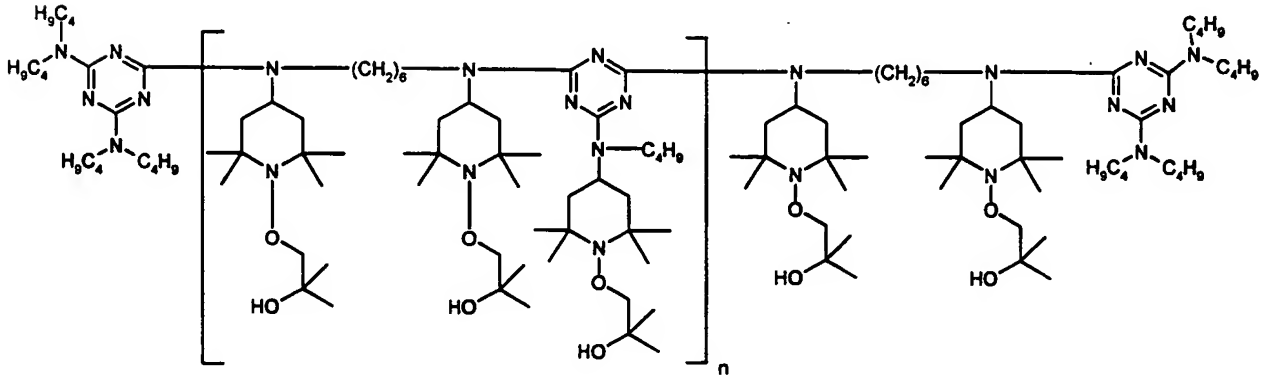


(H9)

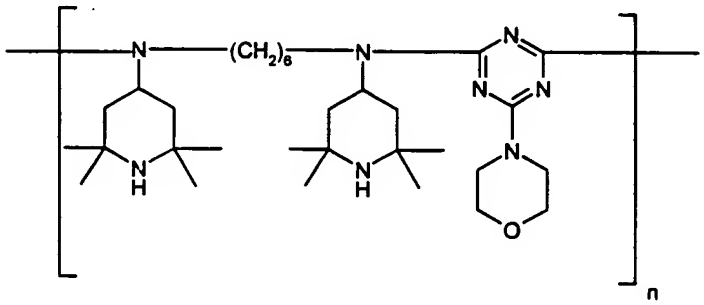
where R' is 



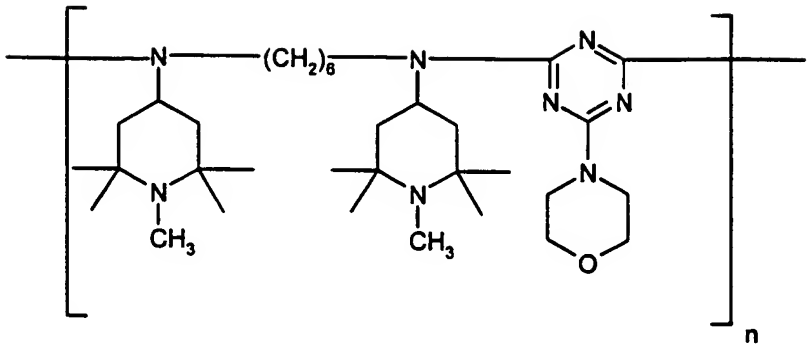
(H10)



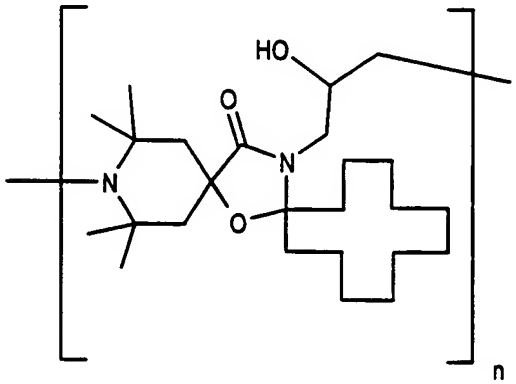
(H11)



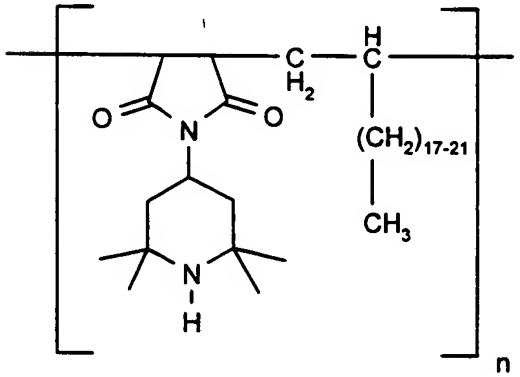
(H12)



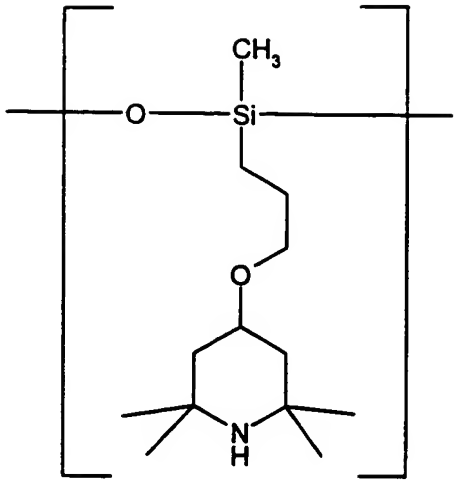
(H13)



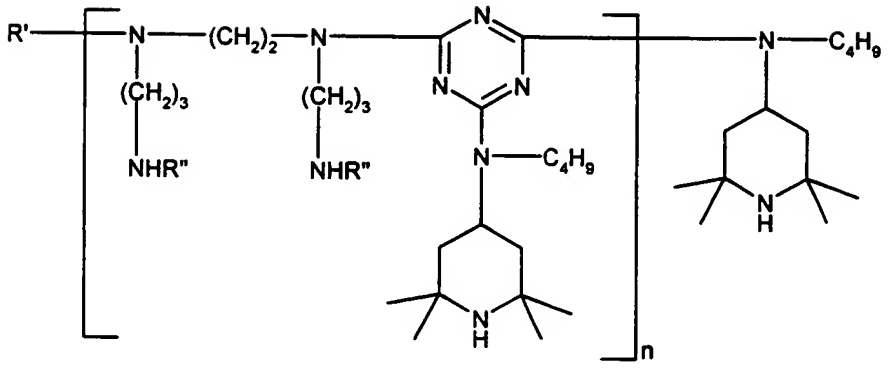
(H14)



(H15)

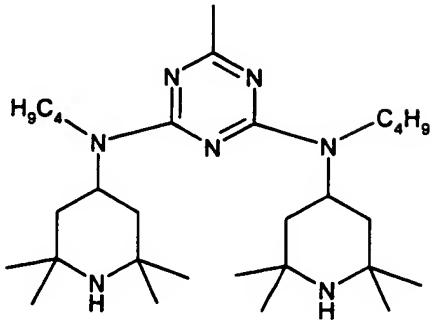


(H16)



where R' = R" or H

and where R" =



(H17).

20. A process according to claim **1**, wherein the temperature reaches the range from about 200°C to 400°C.